

**Notice of Allowability**

Application No.

10/702,320

Examiner

Melanie Yu

Applicant(s)

PROBER ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendment filed 28 November 2005.
2. ☒ The allowed claim(s) is/are 1, 6-7, 11, 14-47 (renumbered 1-39, respectively).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Neil Feltham on 24 February 2006.

The application has been amended as follows:

The title has been changed to: "Resonant Light Scattering Microparticle Methods".

Claim 1, line 8: "surface" has been replaced with --outer optical region--.

Line 15: "the particle" has been changed to --each of the particles-- and after "containing" insert --the--.

Line 26: "comparing the differences" has been changed to --comparing differences--.

Line 29: "spectrum" has been changed to --spectrum, wherein comparing the differences is made relative to each uniquely identified particle--.

Line 30: "on the basis of" has been changed to --based on--.

Claims 2-5, 8-10, 12-13 and 48-70 have been canceled.

2. The following is an examiner's statement of reasons for allowance: the prior art fails to teach a method which provides at least two substantially spherical identifiable particles, wherein each particle has an outer optical region which is substantially transparent to light over the

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analytical wavelength; scanning each particle over a first wavelength range after binding of a capture probe to obtain a uniquely identifying structural reference resonant light scattering spectrum; correlating the capture probe with each particle spectrum; scanning over a second wavelength range after binding the capture probes with analyte in a sample; and detecting analyte based on changes in structural resonant light scattering, wherein the wavelength range comprises more than one discrete wavelength. Yguerabide et al. (US 2003/0096302) teach a method for identification of an analyte comprising providing at least two substantially spherical particles comprising a capture probe, but fail to teach an outer optical region which is substantially transparent and structural reference resonant light scattering. Yguerabide et al. provide detection of analyte by detecting a change in light scattering based on proximity of particles, which is surface plasmon resonance scattering and does not provide a structural reference resonant light scattering signature, which is measured light scattering from a single particle having a substantially transparent outer optical region. Yguerabide et al. also teach detection of the presence of one or more bound analytes based on a correlation of a light scattering signature before and after binding of analyte, but do not teach scanning over an analytical wavelength range, which comprises more than one wavelength, in order to obtain light scattering spectrum uniquely identifying each particle. Bushway et al. (US 2003/0049866) teach providing particles comprising capture probes and an outer region that is substantially transparent to light over a detection wavelength and providing structural resonance light scattering for detection of particles and bound analyte, but fail to teach scanning over an analytical wavelength range, comprising a scan over more than one wavelength, to provide a structural reference resonant light scattering spectrum and correlating bound capture probes with

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each identified particle and correlating unique particle signatures with a specific capture probe. Maleki et al. (US 20020097401) teach techniques for sensing bound analyte by using a whispering gallery mode resonator, wherein the whispering gallery mode resonator comprises a spherical particle having an outer optical region which is substantially transparent to light over the analytical wavelength (par. 16, 39); applying a capture probe to the particles which bind to the outer optical region (par. 41); scanning each particle over a wavelength to produce a first reference signature (par. 35); contacting the particle with a sample suspected of containing the analyte (par. 35); scanning the particles over a second wavelength (par. 35); and detecting binding presence of bound analyte based on changes in the resonant light scattering signature (par. 41). However, Maleki et al. fail to teach scanning each particle over a range of wavelengths to provide a spectrum for each particle, and instead scan over a single wavelength and detect the frequency of wavelengths trapped within the transparent layer. Because the resonant light scattering signature is produced from a single particle and does not require another surface for the signature, the resonant light scattering signature of Maleki et al. is structural. Maleki et al. also fails to teach correlation between capture probes and the resonant light scattering signature of each particle. Additionally, it would have not been obvious to one having ordinary skill in the art at the time the invention was made to include in the method of Maleki et al. scanning over an analytical wavelength range because the particle is designed to accommodate only one wavelength of light in the transparent region of the particle and does not require scanning with a plurality of wavelengths within a range.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Yu whose telephone number is (571) 272-2933. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 1641



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02/24/06